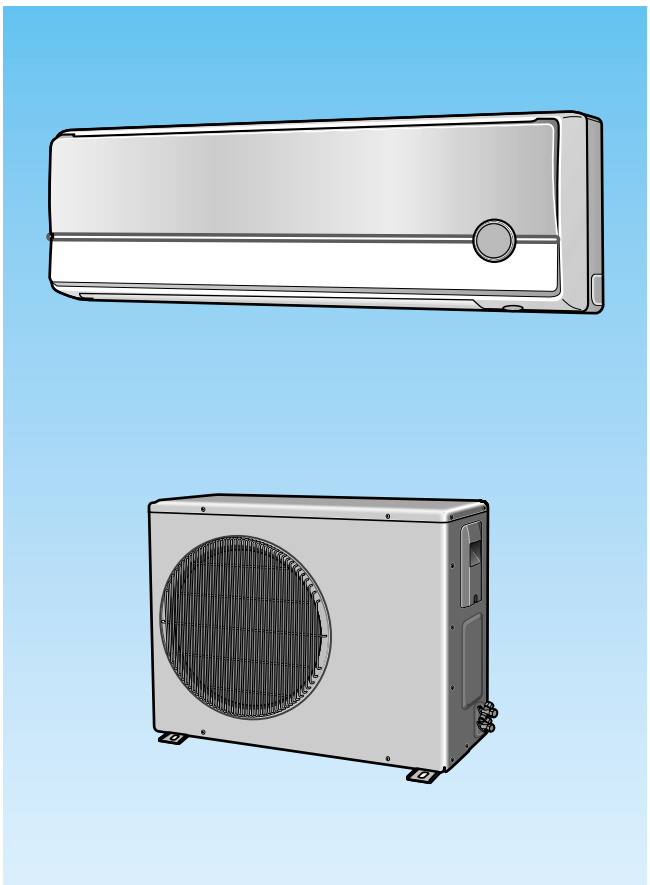
SAMSUNG

ROOM AIR CONDITIONER

INDOOR UNIT	OUTDOOR UNIT
SH18AP0	SH18AP0X
SH24AP6	SH24AP6X

SERVICE Manual

AIR CONDITIONER



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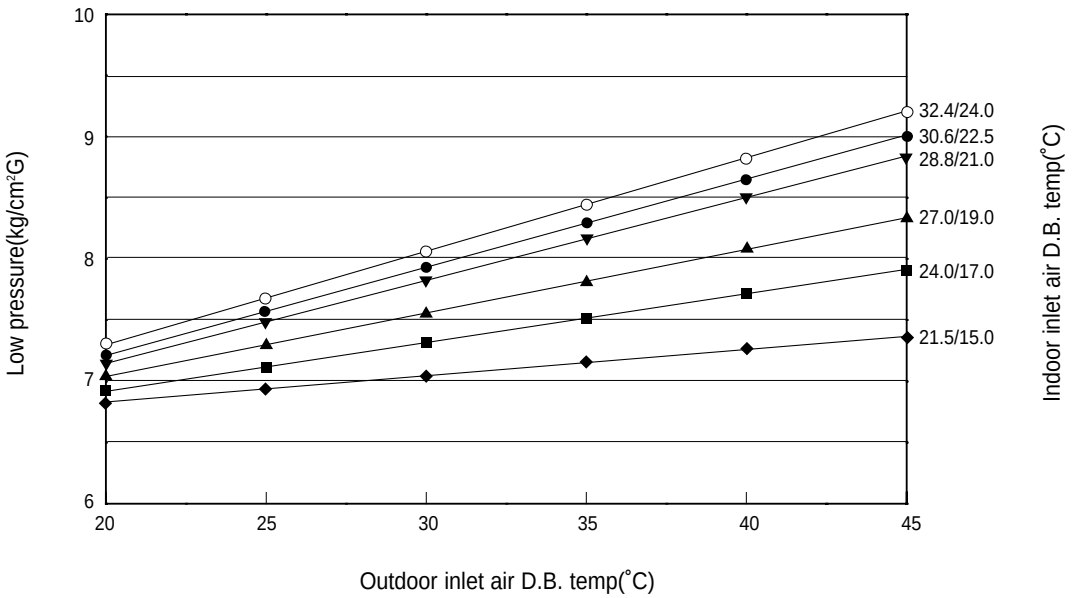
1. Product Specifications

1-1 Table

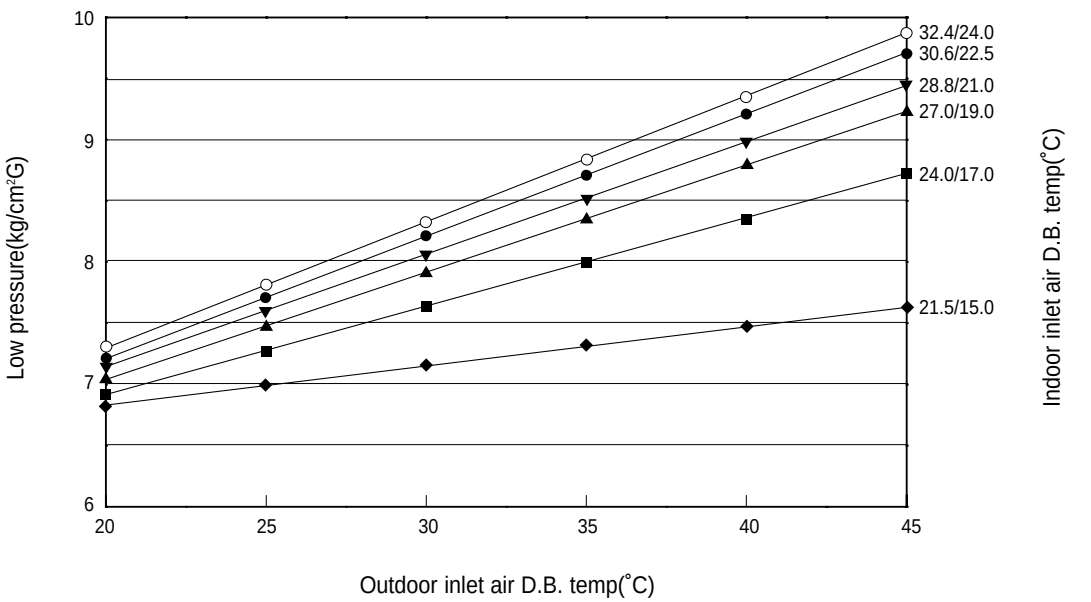
Item \ Model				SH18AP0		SH24AP6	
				Cool	Heat	Cool	Heat
Power Source				220-240V~,50Hz		220-240V~,50Hz	
Performance	Capacity		kW	5.1	5.8	6.8	7.0
	Air Circulation (High)		m^3/min	13.0	13.5	14.0	14.5
	Moisture Removal (High)		Liters/h	2.5		3.0	
Electrical Rating	Available Voltage Range		V	198~264		198~264	
	Running Amperes		A	8.3	8.1	10.8	11.2
	Power Input		kW	1.81	1.80	2.42	2.49
	Power Factor		%	94.8	96.6	97.4	96.7
	Energy Efficiency Ratio		W/W	2.81	3.22	2.81	2.81
	Compressor Locked Rotor Amperes		A	40		58	
Features	Controls / Temperature Control			Microprocessor / Thermistor		Microprocessor / Thermistor	
	Control Unit			Wireless remote control		Wireless remote control	
	Timer			24-Hour ON / OFF		24-Hour ON / OFF	
	Fan Speed (Indoor / Outdoor)			3 Steps and Turbo / 2 Step		3 Steps and Turbo / 2 Step	
	Airflow Direction (Indoor)	Horizontal		Manual		Manual	
		Vertical		Auto		Auto	
	Compressor			Rotary(Samsung)		Rotary(Samsung)	
	Refrigerant / Amount Charged at Rating (R410A)			1,250g		1,550g	
	Refrigerant Control			Capillary tube		Capillary tube	
	Operation Sound	Indoor Hi/Mi/Low	dB-A	48 / 46 / 44		48 / 46 / 44	
		Outdoor-Hi	dB-A	58		61	
	Refrigerant Tubing Connections			Flare type		Flare type	
	Max. Allowable Tubing Length		m	15		20	
	Refrigerant Tube Diameter	Narrow Tube	(in.)	6.35(1/4")		6.35(1/4")	
		Wide Tube	(in.)	12.70(1/2")		15.88(5/8")	
	Refrigerant Tube Kit / Accessories			Optional / Hanger-plate		Optional / Hanger-plate	
				Indoor unit	Outdoor unit	Indoor unit	Outdoor unit
Dimensions & Weight	Unit Dimensions	Height	mm	315	620	315	638
		Width	mm	1,080	787	1,080	880
		Depth	mm	205	320	205	310
	Package Dimensions	Height	mm	286	692	286	704
		Width	mm	1,151	909	1,151	1,023
		Depth	mm	397	444	397	413
	Weight	Net	kg	13	45	13	63
		Shipping	kg	16	50	16	68

1-2 Pressure Graph

■ 18K BTU



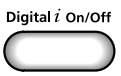
■ 24K BTU



2. Operating Instructions

2-1 The Feature of Key in remote control

No	NAMED OF KEY	FUNCTION OF KEY
1	(On/Off)	On/Off button. Press the button to stop or run the air conditioner.
2	(UP)	Temperature adjustment button(UP). To increase the temperature by the pressing the temperature button.
	(DOWN)	Temperature adjustment button(DOWN). To decrease the temperature by the pressing the temperature button.
3	Mode	Mode selection button. Each time you press this button Mode is changed in the following order Auto → ❄ → 💧 → 🌀 → ☀ Auto : Auto Mode 🌀 : Fan Only ❄ : Cool Mode ☀ : Heat Mode 💧 : Dry Mode
4		Fan speed adjustment button. Each time you press this button, FAN SPEED is changed in the following order. Low → Medium → High Automatic(rotated : → → →)
5		Swing button. It adjusts the airflow to upward and downward.
6	TURBO	Turbo button. The air conditioner cools or heats the room as quickly as possible. After 30minutes, the air conditioner is reset automatically to the previous mode.
7		Energy saving button. If you wish to save energy when using your air conditioner, select the Energy saving mode with the button.
8		Sleep button. The sleep timer can be used when you are cooling or heating your room to switch the air conditioner off automatically after a period of 6 hours.

No	NAMED OF KEY	FUNCTION OF KEY
9		Anion button. Press the button to generate ion from the air conditioner.
10		On Timer button. The On Timer enables you to **switch on** the air conditioner automatically after a given period of time that is from 30 minutes to 24 hours. To set the operating time, press the button one or more times until the required time display.
11		Off Timer button. The Off Timer enables you to **switch off** the air conditioner automatically after a given period of time that is from 30 minutes to 24 hours. To set the operating time, press the button one or more times until the required time display.
12		Timer Set/Cancel button. After setting On Timer or Off Timer, press the button to set it completely. And press the button again to cancel On Timer or Off Timer set.
13		Digital *i* On/Off button. If you want to turn off the display during operation press the button.

2-1-1 Name & Function of Key in remote control

1. AUTO MODE : In this mode, operation mode(COOL, HEAT) is selected automatically by the room temperature of initial operation.

Room Temp	Operation Type
Tr≥ 21°C+ΔT	Cool Operation (Set Temp:24˚C+ΔT)
21°C +ΔT>Tr	Heat Operation (Set Temp:22˚C+ΔT)

   ΔT= -1°C, -2°C, 0°C, +1°C, +2°C
   ΔT is controlled by setting temperature up/down key of remote control

2. COOL MODE : The unit operates according to the difference between the setting and room temperature. (18°C~30°C)

3. HEAT MODE : The unit operates according to the difference between the setting and room temperature.(16°C~30°C)
   *Prevention against cold wind : In order to prevent the cool air from flowing out at the heat mode, the indoor fan does not operate or operates very slowly in the following cases. At this time, the indoor heat exchanger will be preheating.
   - For 3~5 minutes after the initial operation
   - For deicing operation
   - The operation of an indoor fan in accordance with the temperature of an indoor heat exchanger

The temperature of indoor heat exchanger	Indoor fan speed
below 28˚C	off
28˚C~below 34˚C	LL Speed
34˚C~below 40˚C	L Speed
above 40˚C	Setting Speed

   *High temperature release function : It is a function to detect an outdoor overload by the sensor of an indoor heat exchanger and to turn the outdoor fan or the compressor ON/OFF for safety.
   *Deice : Deicing operation is controlled by indoor unit's heat exchanger temperature and accumulating time of compressor's operation.
   Deice ends by sensing of the processing time by deice condition.

4. DRY MODE : Has 3 states, each determined by room temperature.
   The unit operates in DRY mode.
   *Compressor ON/OFF Time is controlled compulsorily (can not set up the fan speed, always breeze).
   *Protective function : Low temperature release. (Prevention against freeze)

5. TURBO MODE : This mode is available in AUTO, COOL, HEAT, DRY, FAN MODE.
   When this button is pressed at first, the air conditioner is operated "powerful" state for 30 minutes regardless of the set temperature, room temperature.
   When this button is pressed again, or when the operating time is 30 minutes, turbo operation mode is canceled and returned to the previous mode.
   *But, if you press the TURBO button in DRY or FAN mode that is changed with AUTO mode automatically.

6. SLEEP MODE : Sleep mode is available only in COOL or HEAT mode.
   The operation will stop after 6 hours.
   *In COOL mode : The setting temperature is automatically raised by 1°C each 1hour When the temperature has been raised by total of 2°C, that temperature is maintained.
   *In HEAT mode : The setting temperature is automatically dropped by 1°C each 1hour.
   When the temperature has been dropped by total of 2°C, that temperature is maintained.

7. FAN SPEED : Manual (3 step), Auto (4 step)
   Fan speed automatically varies depending on both the difference between setting and the room temperature.

8. COMPULSORY OPERATION :
   For operating the air conditioner without the remote control.
   *The air conditioner starts up in the most suitable mode for the room temperature:

Room Temperature	Operating Mode	Temperature Setting
Less than 21˚C	Heat	22˚C approx.
21˚C or above	Cool	24˚C approx.

9. SWING : BLADE-H is rotated vertically by the stepping motor.
   *Swing Set : Press the button under the remote control is displayed on LCD the and the blades move up and down. If the one more time press the button, blades location is stop.

10. SETTING THE ON/OFF TIMER. :
   *ON TIMER : The On Timer enables you to switch on the air conditioner automatically after a given period of time. You can set the period of time from 30 minutes to 24 hours.
   *OFF TIMER : The Off Timer enables you to switch off the air conditioner automatically after a given period of time. You can set the period of time from 30 minutes to 24 hours.

11. GENERATING ANION :
   The air conditioner can generate anion with an ionizer in the indoor unit.

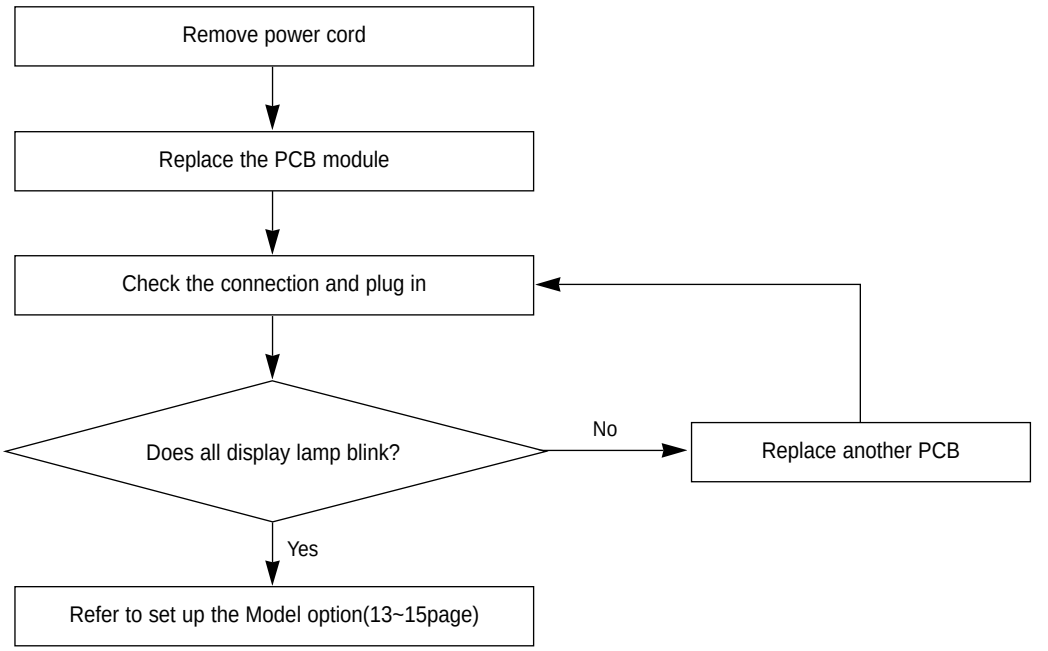
12. SELF DIAGNOSIS

Error Mode	DISPLAY 7-SEGMENT		Remark
	Operation Off	Operation On	
Indoor unit room temperature sensor error (open or short)	OFF	E1	
Indoor unit heat exchanger temperature sensor error(open or short)	OFF	E2	
Indoor FAN MOTOR error : Keep the RPM value 450 below for 15 seconds	OFF	E3	
EEPROM error	OFF	E6	
Error in option In case of No option set-up In case of option data error	All lamp blinking	All lamp blinking	

13. BUZZER SOUND : Whenever the On/Off button is pressed or whenever change occurs to the condition which is set up or select, the compulsory operation mode, buzzer is sounded "beep".

2-2 Replace PCB Model option

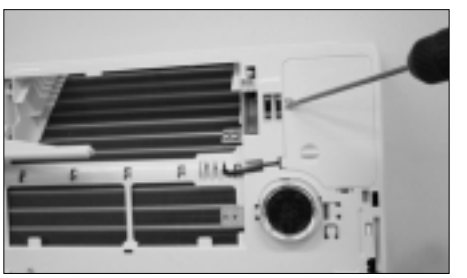
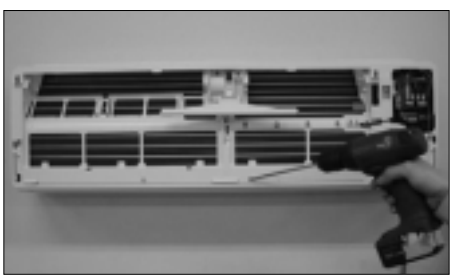
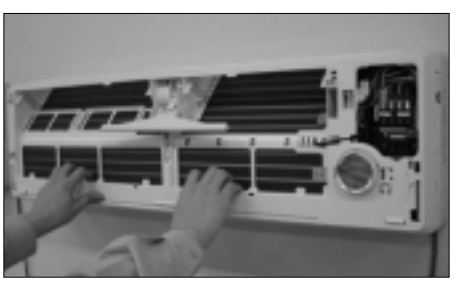
2-2-1 Replace PCB model option

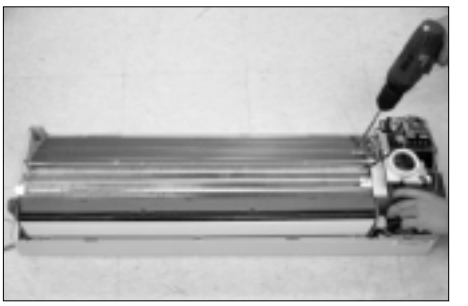
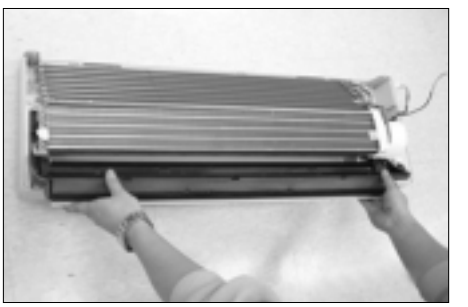
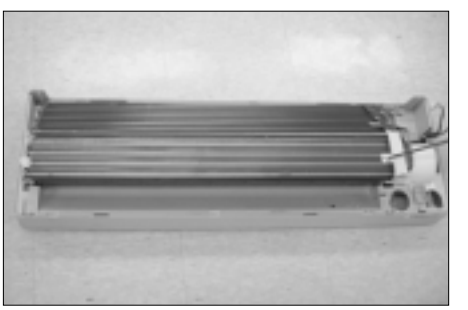
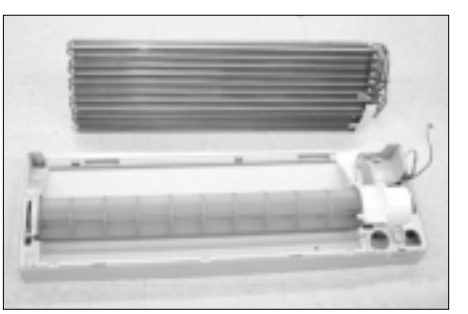


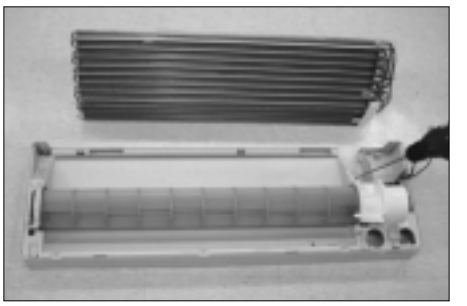
3. Disassembly and Reassembly

Stop operation of the air conditioner and remove the power cord before repairing the unit.

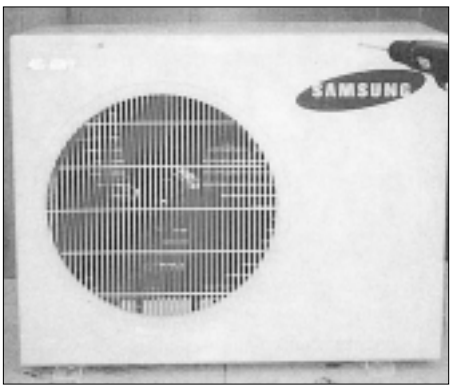
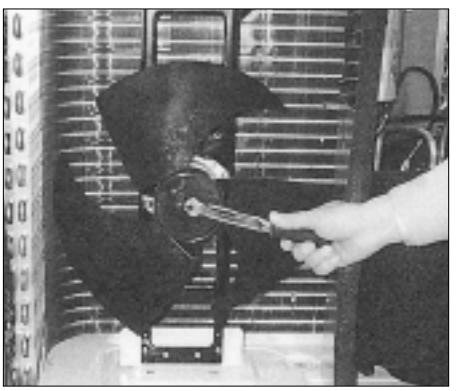
3-1 Indoor Unit

No	Parts	Procedure	Remark
1	Front Panel	1) Stop the air conditioner operation and block the main power. 2) Detach tape of Front Panel upper.	
		3) Slide the lower Front Grille down, then disassemble it by pulling it forwards. 4) Open the upper Front Grille by pulling right and left sides of the Grille. 5) Take the left and right Filter out. 6) Loosen one of the right screw and detach the Terminal Cover. 7) Detach the thermistor from the Front Grille.	
		8) Loosen 5 fixing screws of Front Grille.	
		9) Pull the lower left and right of discharge softly for the outside cover to be pulled out.	
		10) In order to disassemble the Panel Grille, press, in order, the left, center, and right of the upper side of the Panel Grille with the palm of the hand to remove the hook. And then disassemble the Panel Grille.	

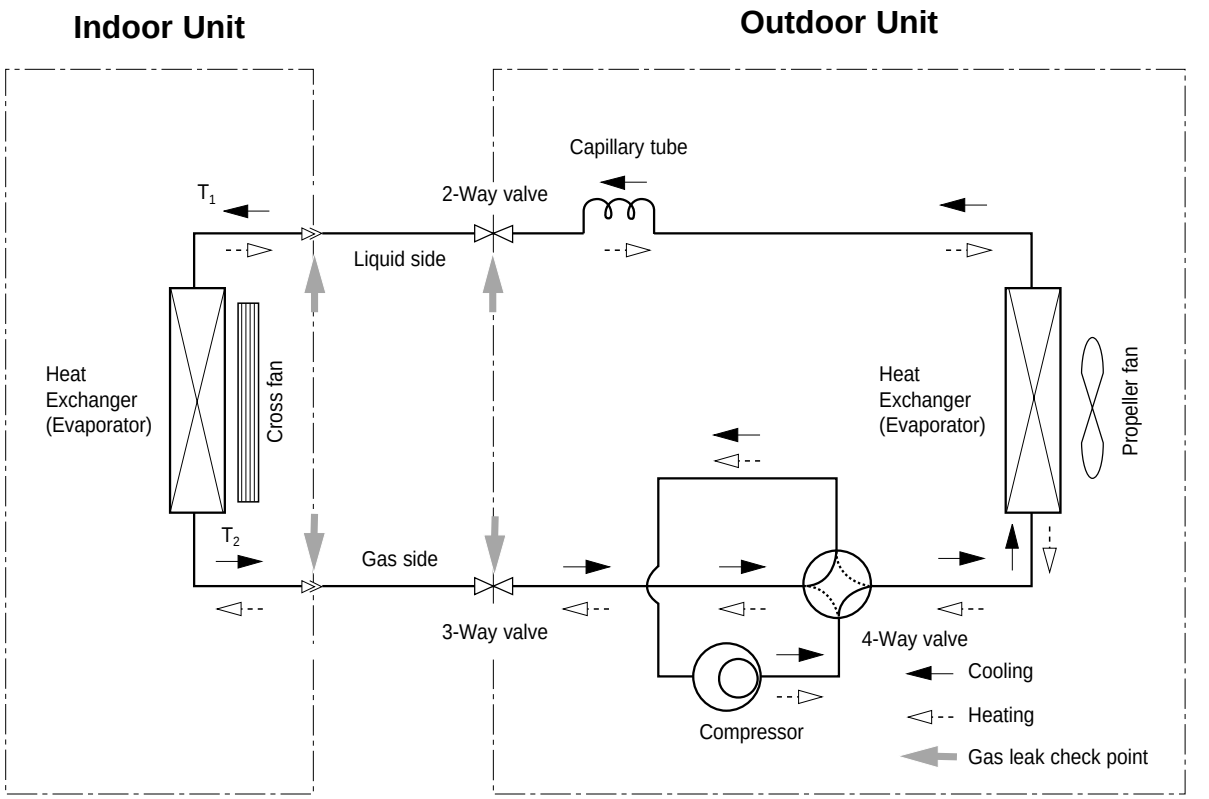
No	Parts	Procedure	Remark
2	Electrical Parts (Main PCB)	1) Take all the connector of PCB upper side out.(Including Power Cord) 2) Detach the outdoor unit connection wire from the Terminal Block. 3) If pulling the main PCB up, it will be taken out.	
3	Tray Drain	1) Pull Tray Drain out from the Back Body.	
4	Heat Exchanger	1) Loosen 2 fixing earth screws of right side. 2) Detach the Connection Pipe. 3) Detach the Holder Pipe at the rear side. 4) Loosen 3 fixing screws of right and left side. 5) Detach the Heat Exchanger from the indoor unit.	 

No	Parts	Procedure	Remark
5	Fan Motor & Cross Fan	1) Loosen 2 fixing screws and detach the Motor Holder. 2) Loosen 1 fixing screw of Fan Motor. (with a M3 wrench) 3) Detach the Fan Motor from the Fan. 4) Detach the Fan from the left Holder Bearing.	

3-2 Outdoor Unit

No	Parts	Procedure	Remark
1	Cabinet	1) Turn off the unit and remove the power cable. 2) Detach the Top Cover. 3) Detach the Control Box Cover. 4) Unplug the Ass'y Cable. 5) Detach the Cabinet-Side. 6) Detach the Cabinet-Front. * When you assemble the parts, check if the each parts and Component Electric Box are fixed firmly.	
2	Fan Motor & Propeller Fan	1) Detach the Nut Flange. (Turn to the clockwise) 2) Disassemble the Propeller Fan.	

4. Refrigerating Cycle Diagram



5. Set Up the Model Option

5-1 Setting Option Setup Method

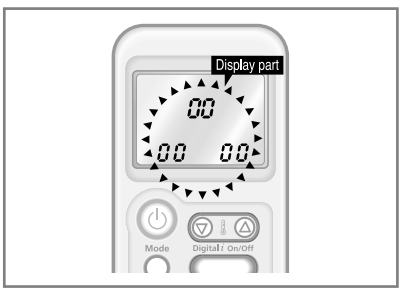
ex) Option No. : 0851151d0351

Step 1 : **Enter the Option Setup mode.**

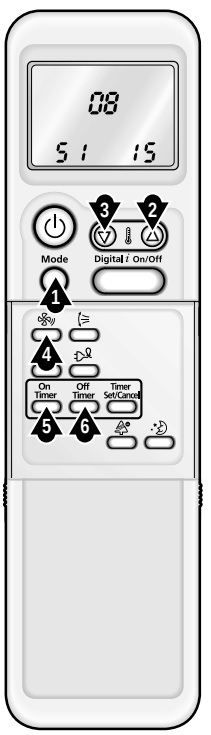
1st Take out the batteries of remote control.

2nd Press the temperature ▽ ▲ button simultaneously and insert the battery again.

3rd Make sure the remocon display shown as 00 00 00 .



Step 2 : **Enter the Option Setup mode and select your option according to the following procedure.**



✳ Setting is not required if you must 0 a value which has a 0 default.

1

The default value is 00 00 00 .
Otherwise, push the Mode button to 0 .
Every time you push the button, the display panel reads 1 or 0 repeatedly.

2

Push the ▲ button to set the display panel to 8 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ··· 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

3

Push the ▽ button to set the display panel to 5 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ··· 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

4

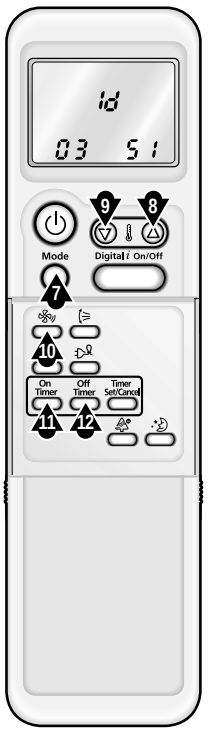
Push the button to set the display panel to 1 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ··· 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

5

Push the On Timer button to set the display panel to 1 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ··· 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

6

Push the Off Timer button to set the display panel to 5 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ··· 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.



✳ Setting is not required if you must 0 a value which has a 0 default.

7 Press Mode button, then the default value is 00 10 00 .

8 Push the ▲ button to set the display panel to d.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ··· 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

9 Push the ▼ button to set the display panel to 0.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ··· 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

10 Push the button to set the display panel to 3.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ··· 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

11 Push the On Timer button to set the display panel to 5.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ··· 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

12 Push the Off Timer button to set the display panel to 1.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ··· 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

Step 3 : Upon completion of the selection, check you made right selections.

Press the Mode Selection key, Mode to set the display part to 0 and check the display part.

➡ The display part shows 51 08 15 .

Press the Mode Selection key, Mode to set the display part to 1 and check the display part.

➡ The display part shows 03 id 51 .

Step 4 : Pressing the ON/OFF button ( )

When pressing the operation ON/OFF key with the direction of remote controller for unit, the sound "Ding" or "Diriring" is heard and the OPERATION ICON( ) lamp of the display is flickering at the same time, then the input of option is completed. (If the diriring sound isn't heard, try again pressing the ON/OFF button.)

Step 5 : Unit operation test-run

First, Remove the battery from the remote controller.

Second, Re-insert the battery into the remote controller.

Third, Press ON/OFF key with the direction of remote controller for set.

• Error Mode

1st If all lamps of indoor unit are flickering, Plug out, plug in battery again and press ON/OFF key to retry.

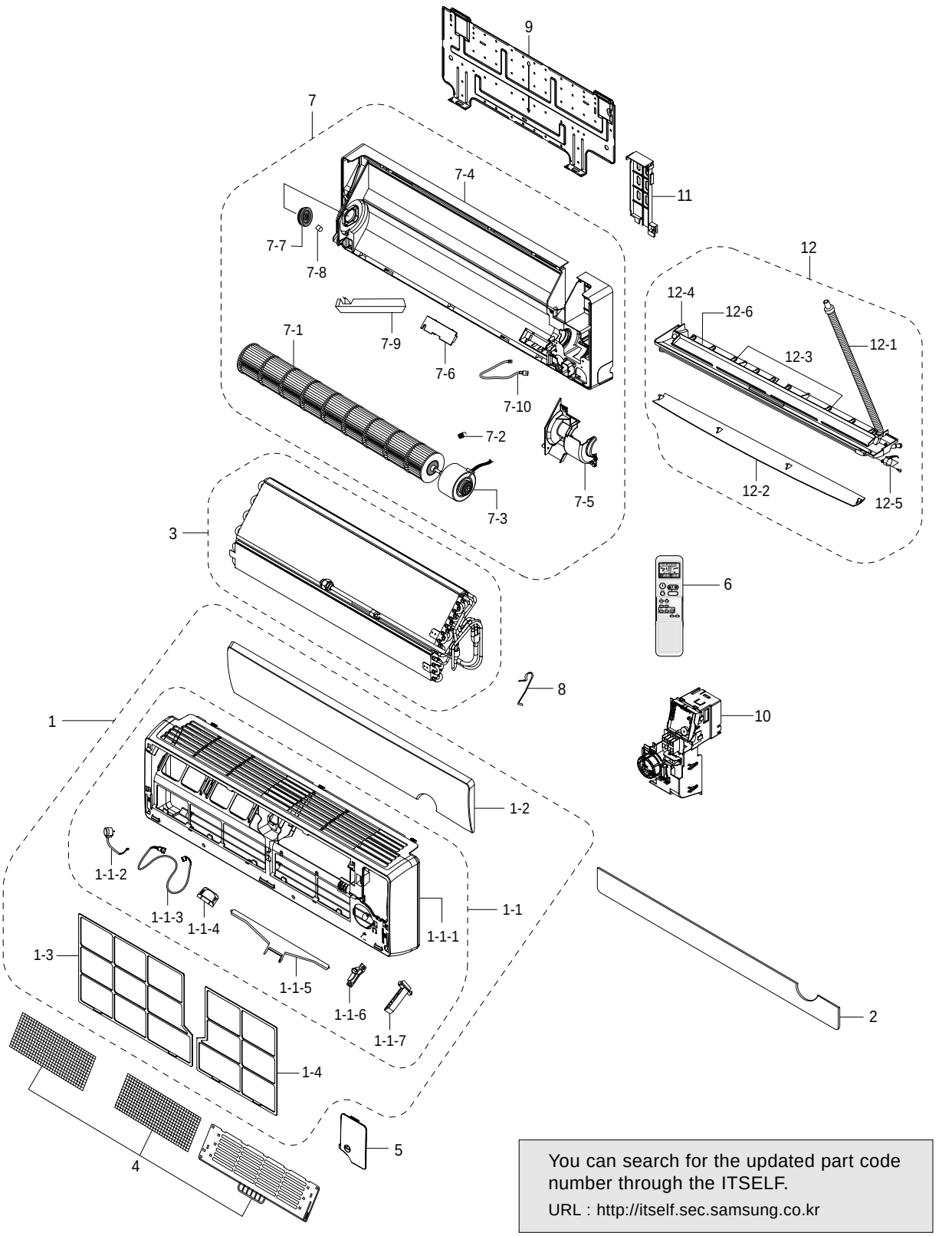
2nd If the unit is not working properly or all lamps are continuously flickering after setting the option code, see if the correct option code is set up for its model.

■ OPTION ITEMS

REMOCON / MODEL	SEG1	SEG2	SEG3	SEG4	SEG5	SEG6	SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
SH18AP0	0	8	5	1	1	5	1	d	0	3	5	1
SH24AP6	0	8	7	2	1	4	1	d	0	3	6	2

6. Exploded Views and Parts List

6-1 Indoor Unit



You can search for the updated part code number through the ITSELF.

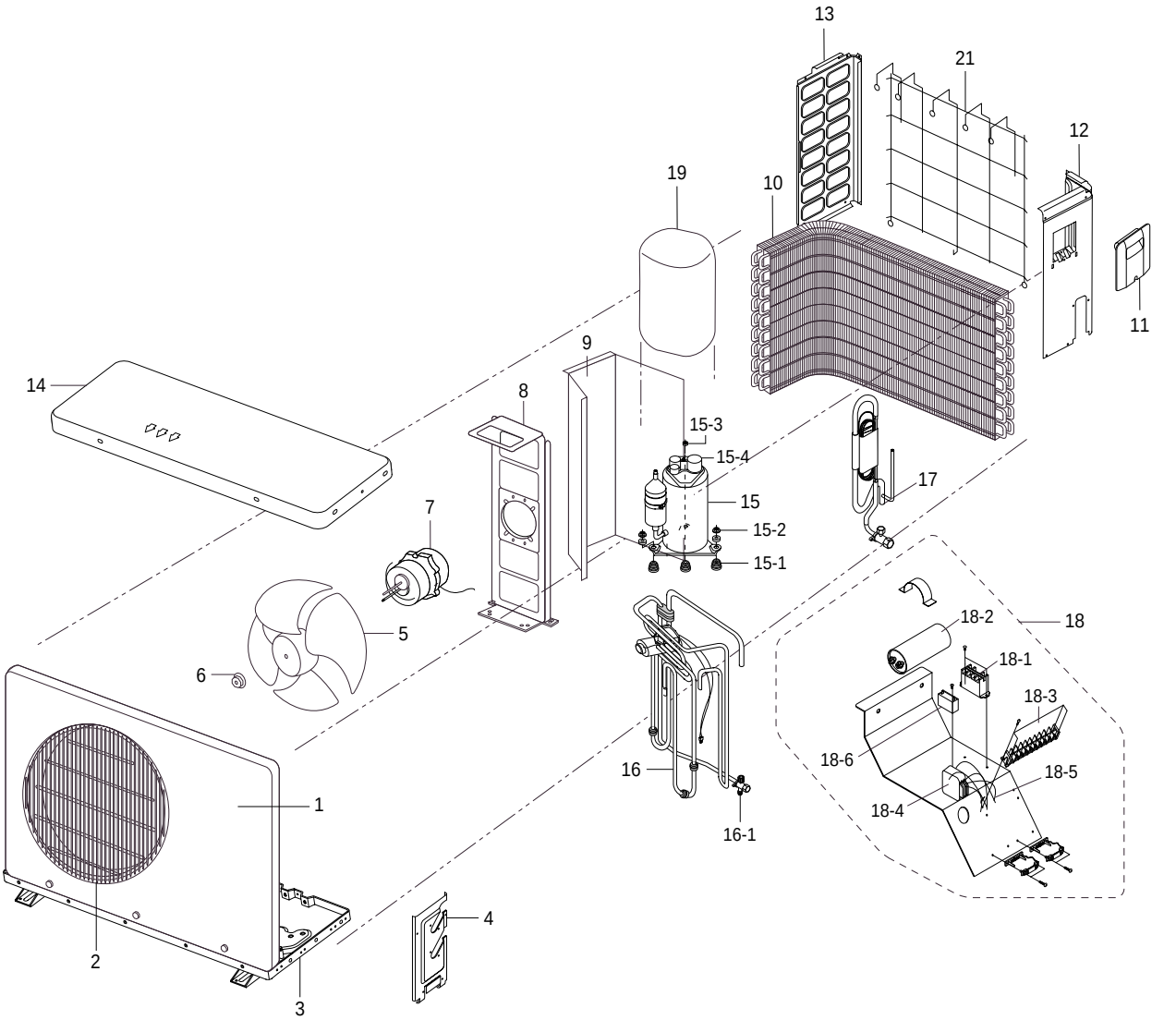
URL : http://itself.sec.samsung.co.kr

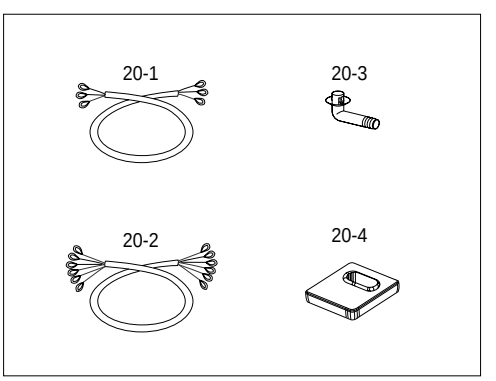
■ **Parts List**

No.	Code No.	Description	Specification	Q'TY		Remark
				SH18AP0	SH24AP6	
1	DB92-00447C	ASS'Y PANEL FRONT-TOTAL	ASS'Y	1	1	
1-1	DB92-00471A	ASS'Y PANEL FRONT-SUB	ASS'Y	1	1	
1-1-1	DB92-00386A	ASS'Y PANEL FRONT	ASS'Y	1	1	
1-1-2	DB31-00195B	MOTOR STEPPING	-	1	1	
1-1-3	DB39-00780B	CONNECT WIRE-STEP MOTOR	-	1	1	
1-1-4	DB61-01114A	HOLDER MOTOR DC	HIPS	1	1	
1-1-5	DB61-01144A	HINGE GRILLE	HIPS	1	1	
1-1-6	DB61-01116A	GUIDE LINK	HIPS	1	1	
1-1-7	DB66-00366A	LINK MOTOR	ABS	1	1	
1-2	DB64-00670A	GRILLE UP	HIPS	1	1	
1-3	DB63-00596B	FILTER-AIR LF	PP	1	1	
1-4	DB63-00597B	FILTER-AIR RH	PP	1	1	
2	DB92-00449D	ASS'Y GRILLE LOW SUB	ASS'Y	1	1	
3	DB96-03071A	ASS'Y EVAP-TOTAL	ASS'Y	1	-	
	DB96-02345E	ASS'Y EVAP-TOTAL	ASS'Y	-	1	
4	DB95-00367F	ASS'Y FILTER BIO	ASS'Y	1	1	
5	DB63-00594A	COVER TERMINAL	HIPS	1	1	
6	DB93-02530G	ASS'Y REMOCON	ASS'Y	1	1	
7	DB94-00531B	ASS'Y BACK BODY	ASS'Y	1	1	
7-1	DB94-00040J	ASS'Y CROSS FAN	ASS'Y	1	1	
7-2	DB60-20011A	BOLT SPECIAL	M6	1	1	
7-3	DB31-10151C	MOTOR-FAN IN	-	1	1	
7-4	DB61-01135A	BACK BODY	HIPS	1	1	
7-5	DB61-01136A	HOLDER-MOTOR	PP	1	1	
7-6	DB63-00580A	COVER-IONIZER	HIPS	1	1	
7-7	DB73-00128A	RUBBER BEARING	-	1	1	
7-8	DB94-40007A	BEARING MOTOR	-	1	1	
7-9	DB93-01629B	ASS'Y IONIZER	ASS'Y	1	1	
7-10	DB93-01383F	ASS'Y CONNECTOR WIRE ION	-	1	1	
8	DB67-60030A	SPRING SENSOR	-	1	1	
9	DB70-00295A	HANGER PLATE	SGCC-M	1	1	
10	DB93-01636A	ASS'Y CONTROL IN	ASS'Y	1	1	
11	DB61-01137A	HOLDER-PIPE	HIPS	1	1	
12	DB94-00300C	ASS'Y TRAY DRAIN	ASS'Y	1	1	
12-1	DB94-00062B	ASS'Y HOSE DRAIN	ASSY	1	1	
12-2	DB61-01141A	BLADE-H	ABS	1	1	
12-3	DB61-01142A	BLADE-V	PP	1	1	
12-4	DB63-00598A	TRAY DRAIN	ABS	1	1	
12-5	DB31-10154A	STEPPING MOTOR	-	1	1	
12-6	DB63-00699A	GUARD-SAFETY WIRE	-	1	1	

6-2 Outdoor Unit

■ 18K BTU

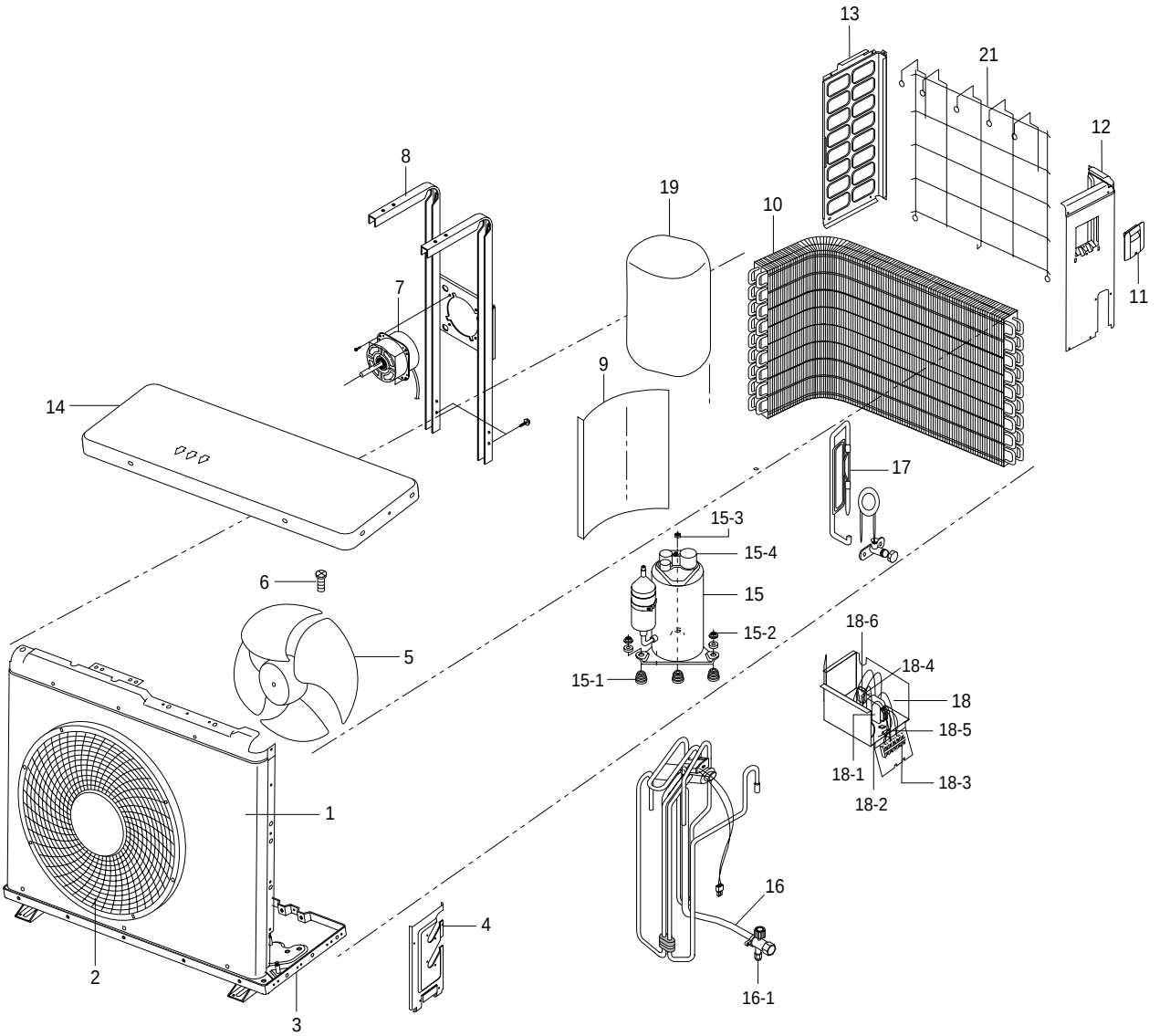




■ Parts List

No.	Code No.	Description	Specification	Q'TY	Remark
1	DB90-00653S	ASS'Y CABI-FRONT	ASS'Y	1	
2	DB63-00385D	GUARD FAN	HSWR	1	
3	DB90-01335A	ASS'Y BASE OUT	ASS'Y	1	
4	DB61-01593A	BRACKET VALVE P	AZ	1	
5	DB67-50063A	FAN-PROPELLER	AS+G/F20%	1	
6	DB60-30020A	NUT-FLANGE	M6,CCW	1	
7	DB31-00056C	MOTOR FAN OUT	ASS-030AVEB	1	
8	DB61-20008C	BASE-MOTOR	SGCC-M	1	
9	DB94-00165C	ASS'Y PARTITION	ASS'Y	1	
10	DB96-01524B	ASS'Y COND-UNIT	ASS'Y	1	
11	DB90-40176B	ASS'Y-COVER CONTROL	ASS'Y	1	
12	DB90-01348A	CABINET-SIDE RH	SC-90073T	1	
13	DB90-01349A	CABINET-SIDE LF	SC-90073T	1	
14	DB90-10613F	ASS'Y-CABI UPPER	ASS'Y	1	
15	G8D190JU1EH	COMPRESSOR	ROTARY	1	
15-1	DB73-00067A	GROMMET ISOLATOR	NR	3	
15-2	DB60-30028A	NUT-WASHER	M8	3	
15-3	DB60-30018A	NUT-FLANGE	M5	1	
15-4	DB63-10165D	COVER-TERMINAL	NOTYL	1	
16	DB99-00390A	ASS'Y-4WAY V/V	ASS'Y	1	
16-1	DB62-02285A	VALVE SERVICE	1/2"	1	
17	DB99-00392A	ASS'Y VALVE CHECK	ASS'Y	1	
18	DB93-00673M	ASS'Y CONTROL OUT	ASS'Y	1	
18-1	3501-001184	RELAY-POWER	30mS	1	
18-2	2501-001239	CAPACITOR	45uF/450VAC	1	
18-3	DB65-00040A	TERMINAL BLOCK	8P	1	
18-4	DB95-90026B	SPARK KILLER	ASS'Y	1	
18-5	3601-000236	FUSE	2A,250V	1	
18-6	2301-001370	MOTOR CAPACITOR	2.5uF/450VAC	1	
19	DB62-02530A	CLOTH-COMP SOUND	FELT+EVA+FELT	1	
20-1	DB39-20546E	CONNECT WIRE-POWER	-	-	OPTION
20-2	DB39-00171A	CONNECT WIRE-ASS'Y	-	-	OPTION
20-3	DB67-20011A	DRAIN PLUG OUT	PP	1	
20-4	DB73-00179A	RUBBER-LEG	NR	4	
21	DB71-00087A	BAR-STEEL	HSWR	1	

■ 24K BTU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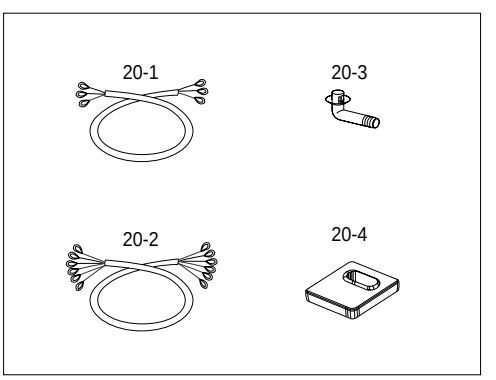
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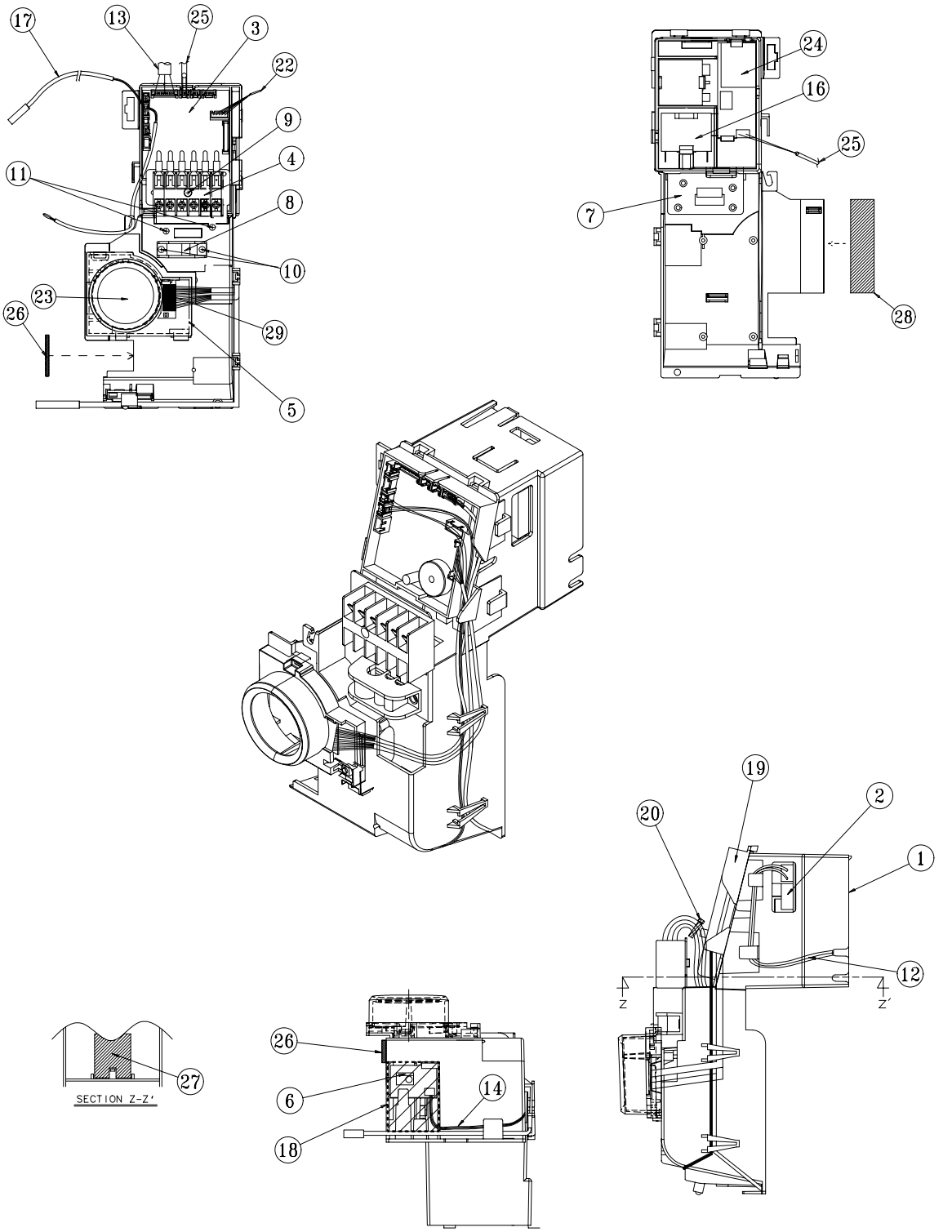
■ **Parts List**

No.	Code No.	Description	Specification	Q'TY	Remark
1	DB90-01364A	ASS'Y CABI-FRONT	ASS'Y	1	
2	DB63-00831A	GUARD-FAN	PP	1	
3	DB90-01336A	ASS'Y BASE OUT	ASS'Y	1	
4	DB61-01593A	BRACKET VALVE P	AZ	1	
5	DB67-50074A	FAN-PROPELLER	AS+G/F20%	1	
6	DB60-20020A	BOLT SPECIAL	M8 L25	1	
7	DB31-00027E	MOTOR FAN OUT	OSME-906SRC	1	
8	DB95-20147A	ASS'Y-MOTOR B/K	ASS'Y	1	
9	DB94-00080C	ASS'Y PARTITION	ASS'Y	1	
10	DB96-03079A	ASS'Y COND-UNIT	ASS'Y	1	
11	DB90-40176B	ASS'Y-COVER CONTROL	ASS'Y	1	
12	DB90-01350B	CABINET-SIDE RH	SC-90073T	1	
13	DB90-01351A	CABINET-SIDE LF	SC-90073T	1	
14	DB90-10616K	ASS'Y-CABI UPPER	ASS'Y	1	
15	G5A240JU1EM	COMPRESSOR	ROTARY	1	
15-1	DB73-00082A	GROMMET-MOUNT	EPDM	3	
15-2	DB60-30028A	NUT-WASHER	M8	3	
15-3	DB60-30018A	NUT-FLANGE	M5	1	
15-4	DB63-10165D	COVER-TERMINAL	NOTYL	1	
16	DB99-00391A	ASS'Y-4WAY V/V	ASS'Y	1	
16-1	DB62-02342A	VALVE SERVICE	5/8"	1	
17	DB99-00393A	ASS'Y VALVE CHECK	ASS'Y	1	
18	DB93-02602A	ASS'Y CONTROL OUT	ASS'Y	1	
18-1	DB34-90054A	SWITCH MAGNETIC	41NB21ALT	1	
18-2	2501-001240	CAPACITOR	50uF/450VAC	1	
18-3	DB65-00040A	TERMINAL BLOCK	8P	1	
18-4	DB95-90026B	SPARK KILLER	-	1	
18-5	3601-000236	FUSE	2A,250V	1	
18-6	2301-001379	C-FILM, MPE-PPF	4uF/450VAC	1	
19	DB72-00681A	CLOTH-COMP SOUND	FELT+EVA+FELT	1	
20-1	DB39-20546E	CONNECT WIRE-POWER	-	-	OPTION
20-2	DB39-00171A	CONNECT WIRE-ASS'Y	-	-	OPTION
20-3	DB67-20011A	DRAIN PLUG OUT	PP	1	
20-4	DB73-00179A	RUBBER-LEG	NR	4	
21	DB71-00088A	BAR-STEEL	HSWR	1	

6-3 Ass'y Control In (Indoor Unit)

■ **DB93-01636A : SH18AP0, SH24AP6**



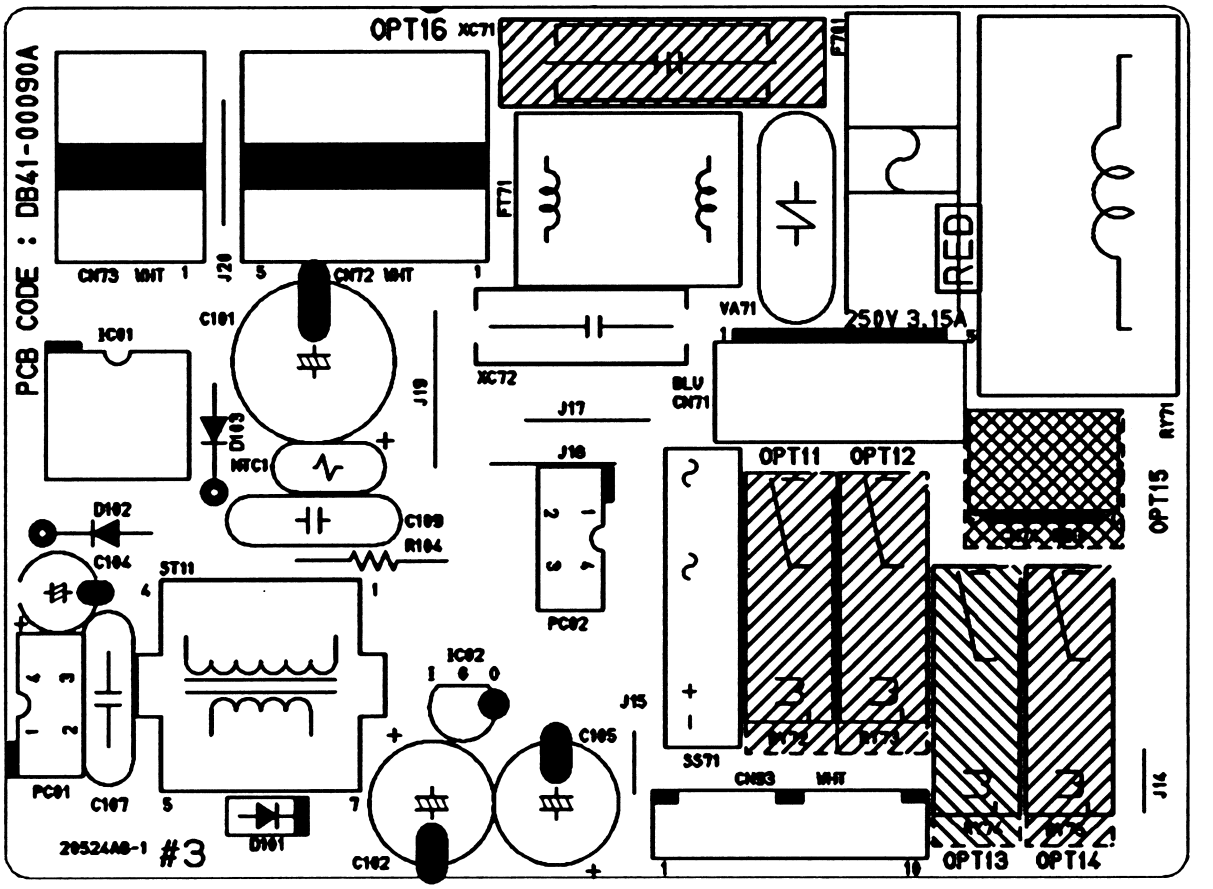
■ **Parts List**

No.	Code No.	Description	Specification	Q'TY		Remark
				SH18AP0	SH24AP6	
1	DB93-01143A	CASE-CONTROL AC	ABS	1	1	
2	DB93-02592C	ASS'Y-MAIN PCB (AC)	ASS'Y	1	1	
3	DB93-01325F	ASS'Y-MAIN PCB (DC)	ASS'Y	1	1	
4	DB93-00096A	ASS'Y-TERMINAL BLOCK	ASS'Y	1	1	
5	DB93-01368C	ASS'Y-S/W & DISPLAY PCB	ASS'Y(GRN)	1	1	
6	DB93-01369B	ASS'Y-MODULE PCB	ASS'Y	1	1	
7	DB70-00277A	PLATE-TERMINAL LOW	SGCC-M, T1.2	1	1	
8	DB61-00171A	HOLDER-WIRE CLAMP	ABS	1	1	
9	-	SCREW-MACHINE	PH M3xL22	1	1	SNA
10	-	SCREW-MACHINE	TH M4xL16	2	2	SNA
11	-	SCREW-MACHINE	TH M4xL10	2	2	SNA
12	DB93-01386A	ASS'Y-C/W MOTOR CAPACITOR	ASS'Y	1	1	
13	DB93-01384A	ASS'Y-C/W AC/DC CONNECTION	ASS'Y	1	1	
14	DB93-01380A	ASS'Y-C/W MODULE PCB	ASS'Y	1	1	
15	DB93-01543A	C/W STEP MOTOR UP/DOWN	ASS'Y	1	1	
16	2301-001371	CAPACITOR	1.2uF, 450VAC	1	1	
17	DB32-00020H	ASS'Y-THERMISTOR	4P (103AT)	1	1	
18	-	SEAL	61x40x3, 30FOAM-PE	1	1	SNA
19	DB61-01106A	CASE CONTROL(DC)	HIPS V0	1	1	
20	-	CABLE TIE	DA-140	1	1	SNA
21	-	POWER CORD	-	-	-	
22	DB39-00780B	ASS'Y C/W AUTO GRILLE	ASS'Y	1	1	
23	DB64-00763A	HALRF MIRROR	95, T1.5	1	1	
24	DB93-01387A	ASS'Y PCB HVPS	DC12V/DC4.7KV	1	1	
25	DB39-00866A	ASS'Y C/W HVPS(12V)	ASS'Y	1	1	
26	DB62-01838L	SEAL-CASE CONTROL	FLOCKED, BLK, T1x45x22	1	1	
27	DB62-02015A	SEAL-CASE CONTROL IN	FOAM-PE	1	1	
28	DB62-01838Y	SEAL-CASE CONTROL	FLOCKED, BLK, T1x77x20	1	1	
29	DB72-00126N	SEAL	10x30xT3, FOAM-PE	1	1	

7. PCB Diagram

7-1 MAIN PCB(AC) : DB93-02592C

■ TOP



	OPT11	OPT12	OPT13	OPT14	OPT15	OPT16 (XC71)
DB93-02592A	○	○	×	×	×	220nF/250V
DB93-02592B	×	×	×	×	×	220nF/250V
DB93-02592C	○	○	○	×	○	220nF/250V
DB93-02592D	○	×	○	×	○	220nF/250V
DB93-02592E	○	○	○	○	○	220nF/250V
DB93-02592F	○	×	○	○	○	220nF/250V

■ Parts List

Location No.	Description	Specification	Q'TY	Remark
C101	C-AL	10uF,20%,450V,GP,TP,10x20mm,5	1	SNA
C102	C-AL	470uF,20%,25V,GP,TP,10x16,5	1	SNA
C104	C-AL	47uF,20%,50V,GP,TP,6.3x11,5	1	SNA
C105	C-AL	470uF,20%,16V,GP,TP,10x12.5,5	1	SNA
C107	C&R NETWORK	2.2nF,20%,400V,Y5U,TP,12.5x6,10,12Mohm,0.5W,5%,TP,4x9	1	SNA
C109	C-CERAMIC,DISC	100nF,20%,1KV,TP,6	1	SNA
XC71	C-FILM,MPEF	220NF,10%,275V,BK,26.5x8.5x17mm,22.5	1	SNA
XC72	C-FILM,MPEF	100nF,10%,275V,BK,18x6x12,15	1	SNA
FT71	CHOKE-COIL	LS404190M,AS-S660,19mH,+50,-30%,-,300Mohm,2A,-,-,-	1	SNA
CN71	CONNECTOR-HEADER	1WALL,3P/5P,1R,3.96mm,STRAIGHT,SN	1	SNA
CN72	CONNECTOR-HEADER	1WALL,5P,1R,3.96mm,ANGLE,SN	1	SNA
CN73	CONNECTOR-HEADER	1WALL,2P/3P,1R,3.96mm,ANGLE,SN	1	SNA
CN74	CONNECTOR-HEADER	1WALL,3P,1R,3.96mm,STRAIGHT,SN	1	SNA
CN93	CONNECTOR-HEADER	BOX,10P,1R,-,STRAIGHT,SN	1	SNA
D101	DIODE-RECTIFIER	UG2D,200V,2A,DO-204AC,TP	1	SNA
D103	DIODE-RECTIFIER	UF4007,1KV,1A,DO-41,TP	1	SNA
D102	DIODE-SWITCHING	1N4148,100V,200mA,DO-35,TP	1	SNA
F701	FUSE-CARTRIDGE	250V,3.15A,TIME-LAG,GLASS,5x20mm	1	SNA
IC01	IC-PWM CONTROLLER	VIPER12ADIP,DIP,8P,300MIL,PLASTIC	1	SNA
IC02	IC-VOLT REGU	78L05A,TO-92,3P,-,PLASTIC,4.6	1	SNA
PC01	PHOTO-COUPLER	TR,130-260%,200mW,DIP-4,ST	1	SNA
PC02	PHOTO-COUPLER	TR,50-150%,200mW,DIP-4,ST	1	SNA
RY72,RY73,RY74,RY75	RELAY-MINIATURE	DC12V,3A 250V AC,-,-,10MS,10MS	4	SNA
RY71	RELAY-POWER	12VDC,0.9W,75mA,SPST,MAX 20msec,10mS	1	SNA
R104	R-METAL OXIDE(S)	91Kohm,5%,2W,AA,TP,4x12mm	1	SNA
SS71	SSR	12Vdc,-,2A,1mS,1mS	1	SNA
NTC1	THERMISTOR-NTC	22ohm,1.4A,3100K,9.5mW/C,-,7.0,-	1	SNA
ST11	TRANS	S/W TRANS;-,G-P/J,EE1916-V10,-,-,-	1	SNA
VA71	VARISTOR	560V,2500A,17.5x7.5mm,TP	1	SNA

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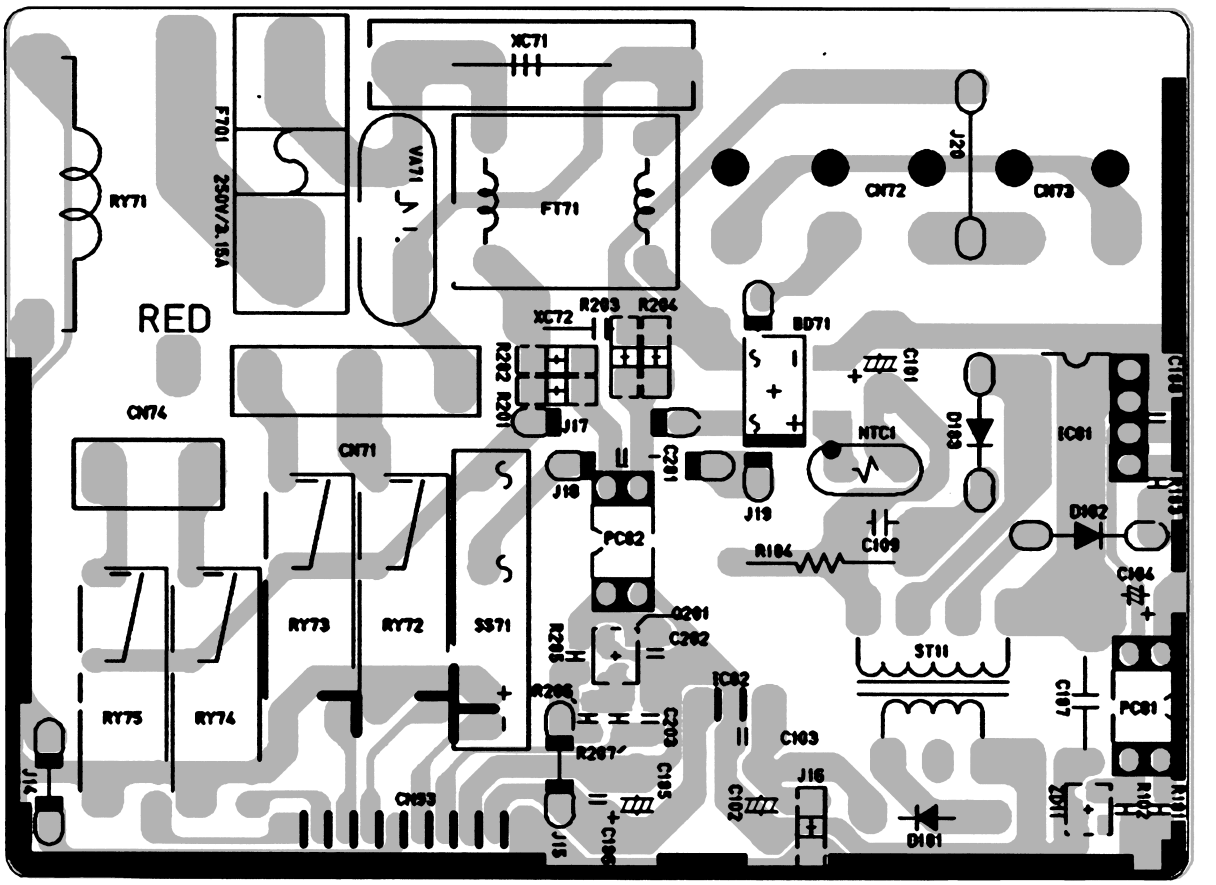

■ Parts List

Location No.	Description	Specification	Q'TY	Remark
BD71	DIODE-BRIDGE	DF06S,600V,1A,SMD-4,TP	1	SNA
C103,C106,C108,C201	C-CERAMIC,CHIP	100nF,+80-20%,50V,Y5V,TP,2012	4	SNA
C202,C203	C-CERAMIC,CHIP	10nF,+80-20%,50V,Y5V,TP,2012	2	SNA
Q201	TR-SMALL SIGNAL	2SC2412K,NPN,200mW,SOT-23,TP,1	1	SNA
R101	R-CHIP	100ohm,5%,1/10W,DA,TP,2012	1	SNA
R102	R-CHIP	2.2Kohm,5%,1/10W,DA,TP,2012	1	SNA
R103	R-CHIP	6.8ohm,5%,1/10W,DA,TP,2012	1	SNA
R201,R202,R203,R204	R-CHIP	100Kohm,5%,1/4W,DA,TP,3216	4	SNA
R205	R-CHIP	10Kohm,5%,1/10W,DA,TP,2012	1	SNA
R206,R207	R-CHIP	1Kohm,5%,1/10W,DA,TP,2012	2	SNA
ZD11	DIODE-ZENER	BZX84-C11,10.4-11.6V,350mW,SOT-23,TP	1	SNA

7-2 MAIN PCB(DC) : DB93-01325F

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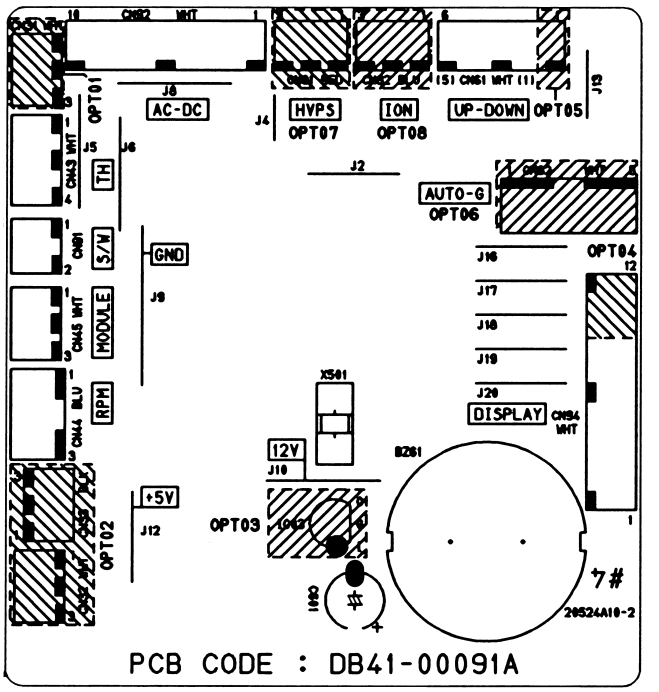

ASS'Y PCB	OPT01	OPT02	OPT03	OPT04 (CN94)	OPT05 (CN61)	OPT06	OPT07	OPT08
DB93-01325A	×	×	×	SMW200-09(WHT)	SMW200-05(WHT)	×	×	×
DB93-01325B	×	×	×	SMW200-12(WHT)	SMW200-05(WHT)	○	×	○
DB93-01325C	×	×	×	SMW200-12(WHT)	SMW200-05(WHT)	○	○	○
DB93-01325E	×	×	×	SMW200-09(WHT)	SMW200-06(WHT)	×	×	×
DB93-01325F	×	×	×	SMW200-12(WHT)	SMW200-06(WHT)	○	×	○
DB93-01325G	×	×	×	SMW200-12(WHT)	SMW200-06(WHT)	○	○	○
DB93-01325J	×	×	×	SMW200-12(WHT)	SMW200-05(WHT)	○	○	×
DB93-01325K	×	×	×	SMW200-12(WHT)	SMW200-05(WHT)	○	×	×
DB93-01325L	×	×	×	SMW200-12(WHT)	SMW200-06(WHT)	○	○	×

■ Parts List

Location No.	Description	Specification	Q'TY	Remark
BZ61	BUZZER-PIEZO	BUZZER-PIEZO;80DB,9V ,-,2.0KHz,-	1	SNA
X501	RESONATOR-CERAMIC	10MHz,0.5%,TP,10.0x5.0x8.0mm	1	SNA
C601	C-AL	47uF,20%,50V,GP,TP,6.3x11,5	1	SNA
CN31	CONNECTOR-HEADER	BOX,3P,1R,2mm,STRAIGHT,SN	1	SNA
CN32	CONNECTOR-HEADER	BOX,3P,1R,2mm,STRAIGHT,SN	1	SNA
CN33	CONNECTOR-HEADER	BOX,3P,1R,2mm,STRAIGHT,SN	1	SNA
CN43	CONNECTOR-HEADER	BOX,4P,1R,2mm,STRAIGHT,SN	1	SNA
CN44	CONNECTOR-HEADER	BOX,3P,1R,2.5mm,STRAIGHT,SN	1	SNA
CN45	CONNECTOR-HEADER	BOX,3P,1R,2mm,STRAIGHT,SN	1	SNA
CN61	CONNECTOR-HEADER	BOX,5P,1R,2mm,STRAIGHT,SN	1	SNA
CN62	CONNECTOR-HEADER	BOX,5P,1R,2.5mm,STRAIGHT,SN	1	SNA
CN81	CONNECTOR-HEADER	BOX,3P,1R,2mm,STRAIGHT,SN,RED	1	SNA
CN82	CONNECTOR-HEADER	BOX,3P,1R,2mm,STRAIGHT,SN,BLU	1	SNA
CN91	CONNECTOR-HEADER	BOX,2P,1R,2mm,STRAIGHT,SN	1	SNA
CN92	CONNECTOR-HEADER	BOX,10P,1R,-,STRAIGHT,SN	1	SNA
CN94	CONNECTOR-HEADER	BOX,12P,1R,2mm,STRAIGHT,SN	1	SNA
IC03	IC-VOLTAGE	7533,TO-92,3P,-,SINGLE,-,-,PLASTIC	-	SNA

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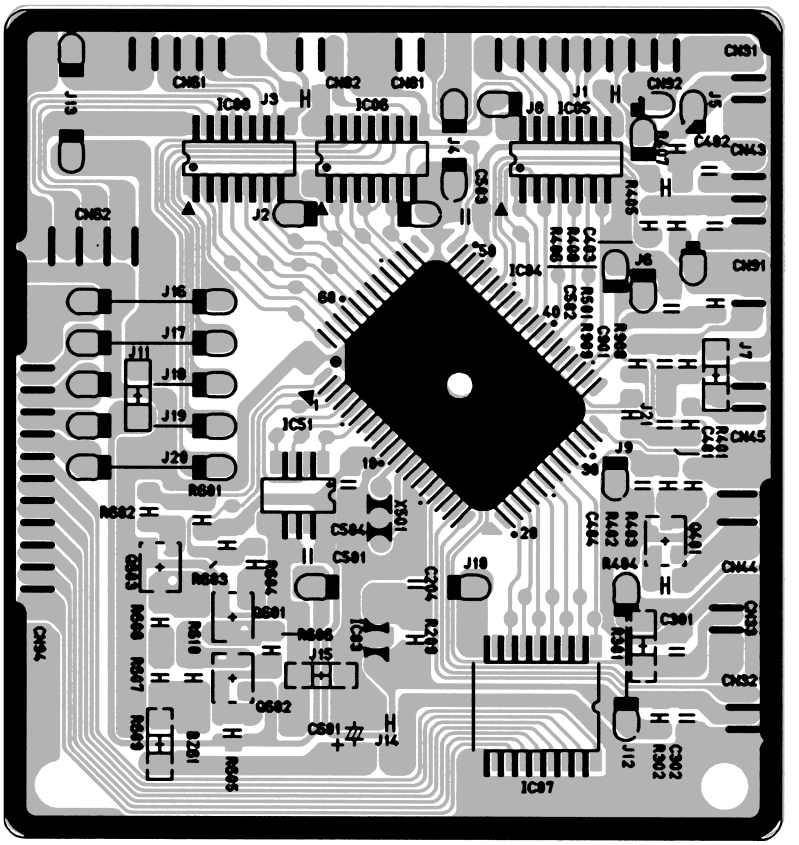
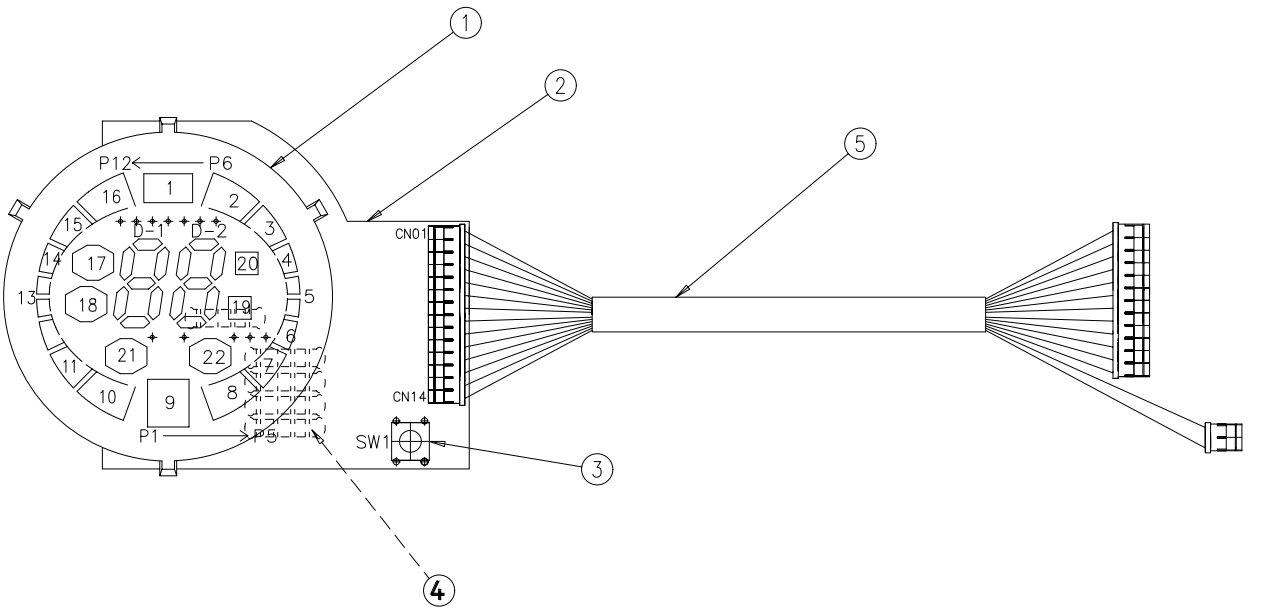


■ Parts List

Location No.	Description	Specification	Q'TY	Remark
C204,C301,C302,C402,C403 C501,C502,C503,C504,C901	C-CERAMIC,CHIP	100nF,+80-20%,50V,Y5V,TP,2012	10	SNA
C401	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,2012,-	1	SNA
C404	C-CERAMIC,CHIP	10nF,+80-20%,50V,Y5V,TP,2012	1	SNA
IC04	IC-MICOM	S3C8489XZZ-QTR5,-,64,+5V,10MHz,STM-0219-O	1	SNA
IC05,IC06,IC08	TR-ARRAY	2003,NPN,7,1W,SOP-16,ST,1000	3	SNA
IC07	IC-SOURCE DRIVER	TD62783AFW,SOL,18P,-,8,-500mA,TP,	1	SNA
IC51	IC-EEPROM	93LC56,128x16Bit,SOP,8P,150MIL,-,2.5V,-	1	SNA
Q401,Q601,Q603	TR-SMALL SIGNAL	2SC2412K,NPN,200mW,SOT-23,TP,1	3	SNA
Q602	TR-SMALL SIGNAL	MMST2907A,PNP,200mW,SOT-23,TP,100-	1	SNA
R209,R301,R302,R401,R402 R404,R602,R604,R610	R-CHIP	1Kohm,5%,1/10W,DA,TP,2012	9	SNA
R403,R407,R408	R-CHIP	6.8Kohm,5%,1/10W,DA,TP,2012	3	SNA
R405,R406	R-CHIP	330ohm,5%,1/10W,DA,TP,2012	2	SNA
R501,R601,R603,R605,R908	R-CHIP	10Kohm,5%,1/10W,DA,TP,2012	5	SNA
R606,R909	R-CHIP	4.7Kohm,5%,1/10W,DA,TP,2012	2	SNA
R607,R608	R-CHIP	470ohm,5%,1/10W,DA,TP,2012	2	SNA
R609	R-CHIP	560ohm,5%,1/10W,DA,TP,2012	1	SNA

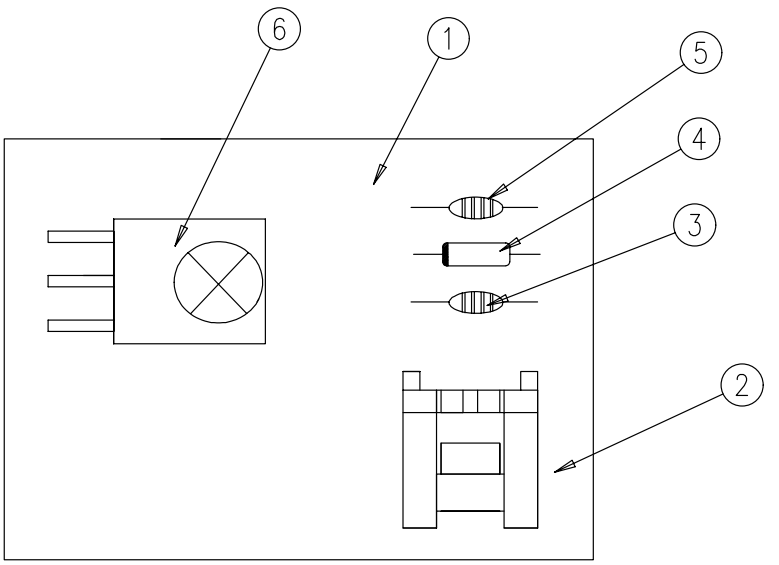
7-3 ASS'Y DISPLAY PCB(18K/24K) : DB93-01368C



■ **Parts List**

No	Description	Specification	Q'TY	Remark
1	ASS'Y LED MODULE	GREEN	1	SNA
2	PCB-DISPLAY	FR-1 T1.6	1	SNA
3	TACT SWITCH	KPT-1105A	1	SNA
4	RESISTOR	200ohm, 2W	5	SNA
5	CONNECTOR WIRE	14P	1	SNA

7-4 ASS'Y MODULE PCB(18K/24K) : DB93-01369A

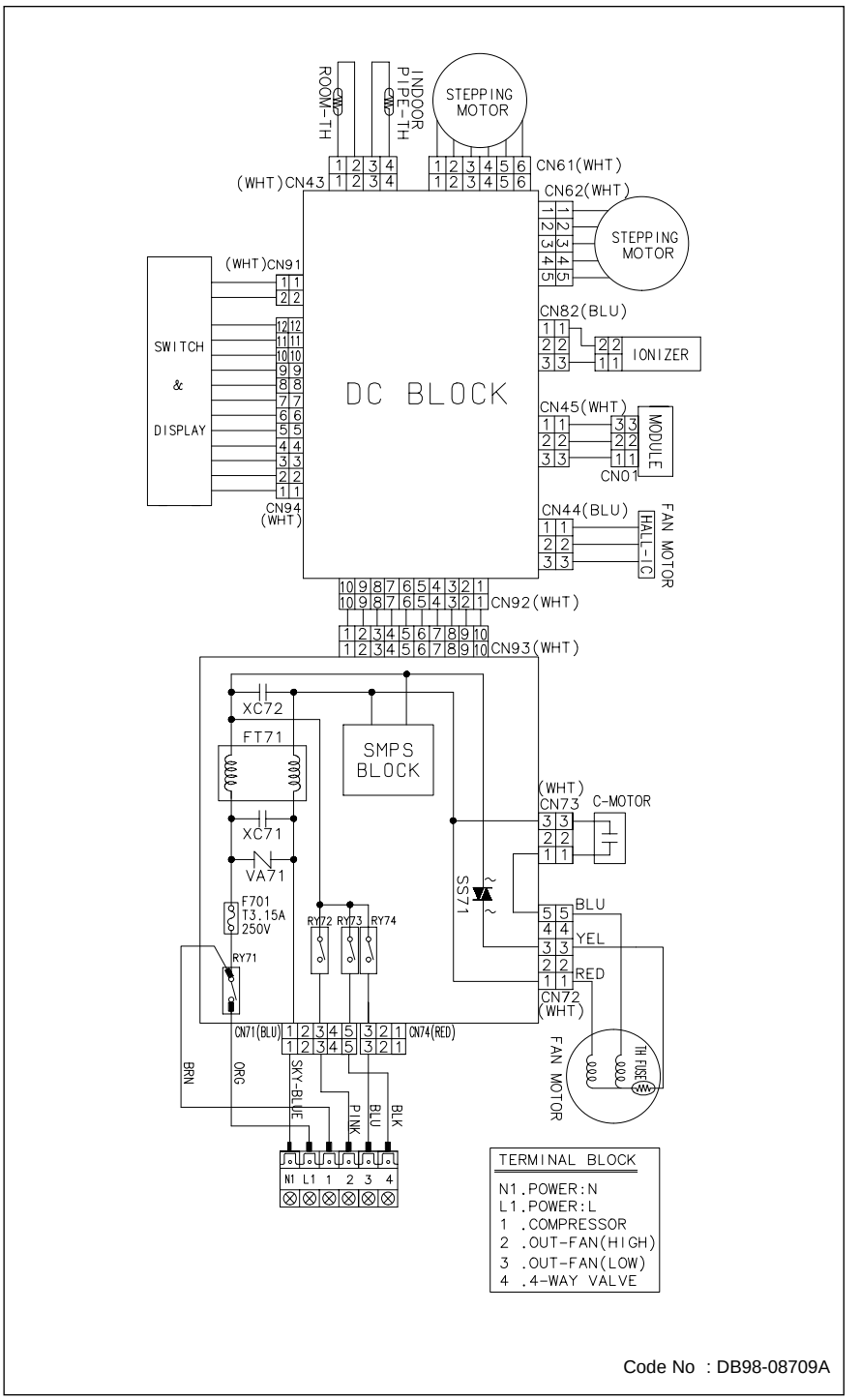


■ **Parts List**

No	Description	Specification	Q'TY	Remark
1	PCB MODULE	FR1 T1.6	1	SNA
2	CONNECTOR-HEADER	BOX, 3P, 1R, 2mm, ANGLE, SN	1	SNA
3	C-CERAMIC, MLC-AXIAL	1nF, 10%, 50V, Y5P, TP, 1.9x3.5, -	1	SNA
4	DIODE-SWITCHING	1N4148, 100V, 200mA, DO-35, TP	1	SNA
5	C-CERAMIC, MLC-AXIAL	100nF, +80-20%, 50V, Y5V, TP, 3.5x1	1	SNA
6	MODULE	FRP4021H7	1	SNA

8. Wiring Diagram

8-1 Indoor Unit



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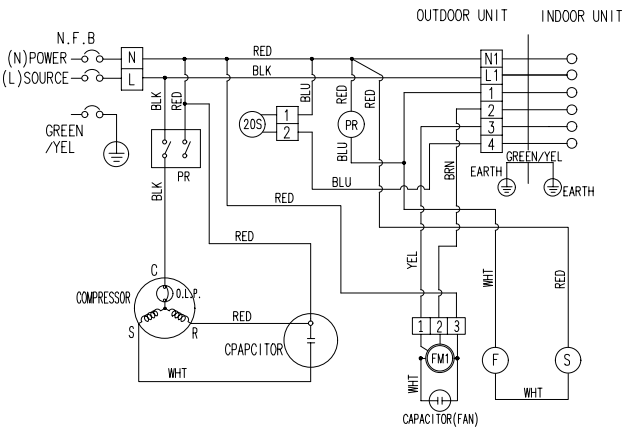
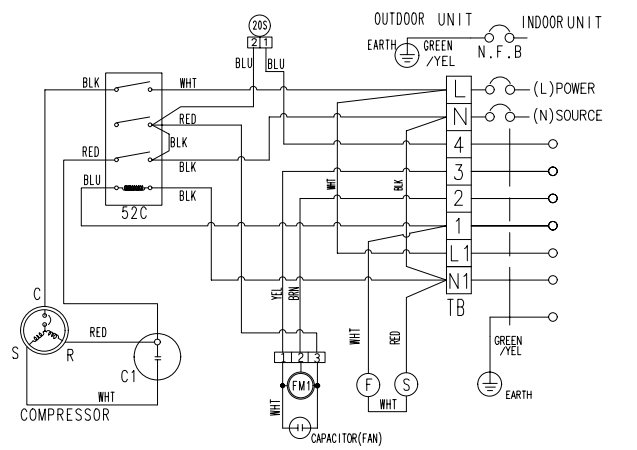
■ SH18AP0X



MARK	NAME	MARK	NAME
PR	POWER RELAY	TB1,2	TERMINAL BLOCK
20S	SOLENOID COIL	FM1	FAN MOTOR
F	FUSE(2A,250V~)	S	SPARK KILLER

Code No : DB98-15862A

■ SH24AP6X



MARK	NAME	MARK	NAME
52C	MAGNETIC CONTACTOR	TB 1,2	TERMINAL BLOCK
20S	SOLENOID COIL	FM1	FAN MOTOR
C1	CAPACITOR	S	SPARK KILLER
F	FUSE(2A,250V~)		

Code No : DB98-15985A

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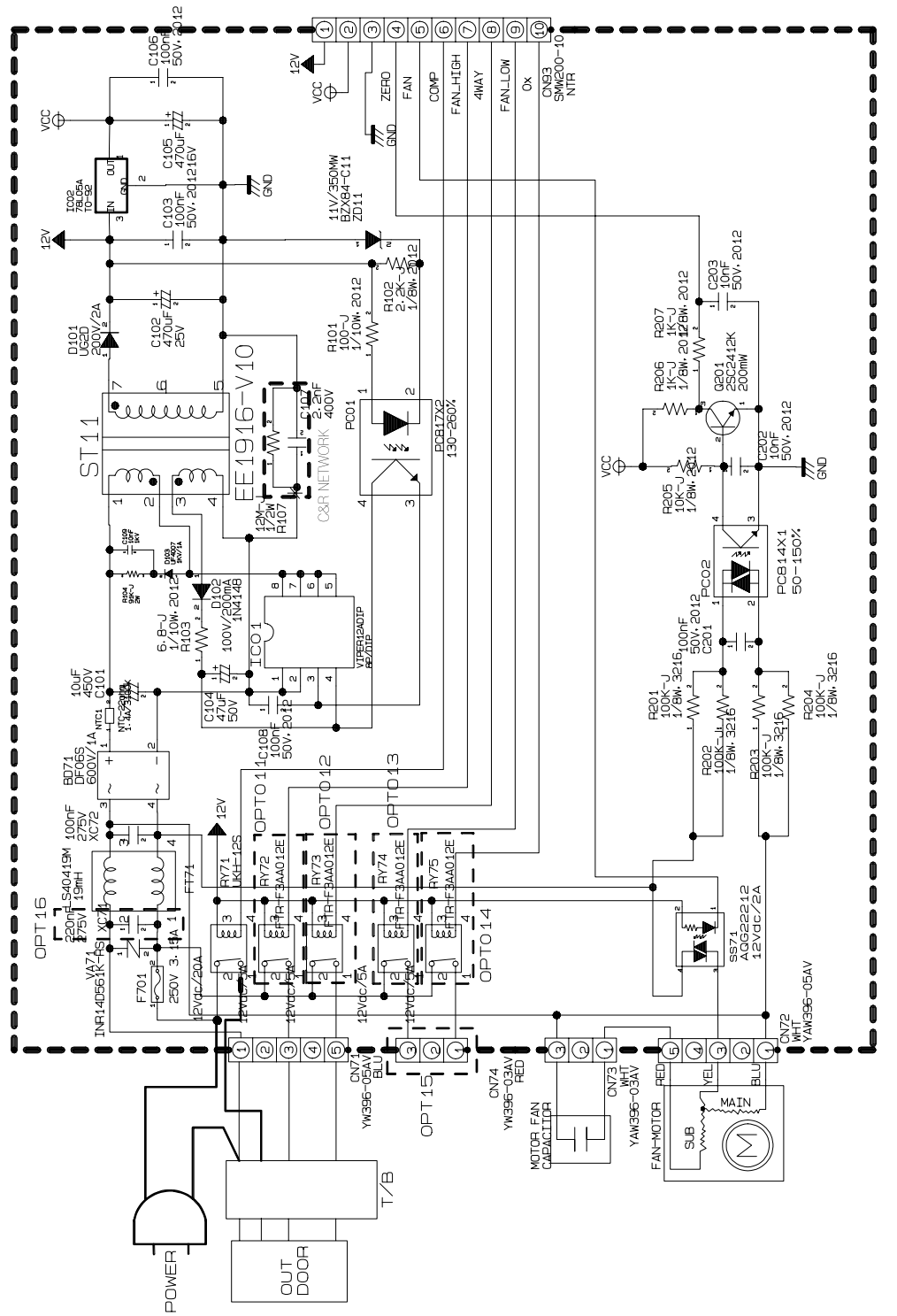
9. Schematic Diagram

9-1 Indoor Unit

9-1-1 18K / 24K BTU(AC-PART)



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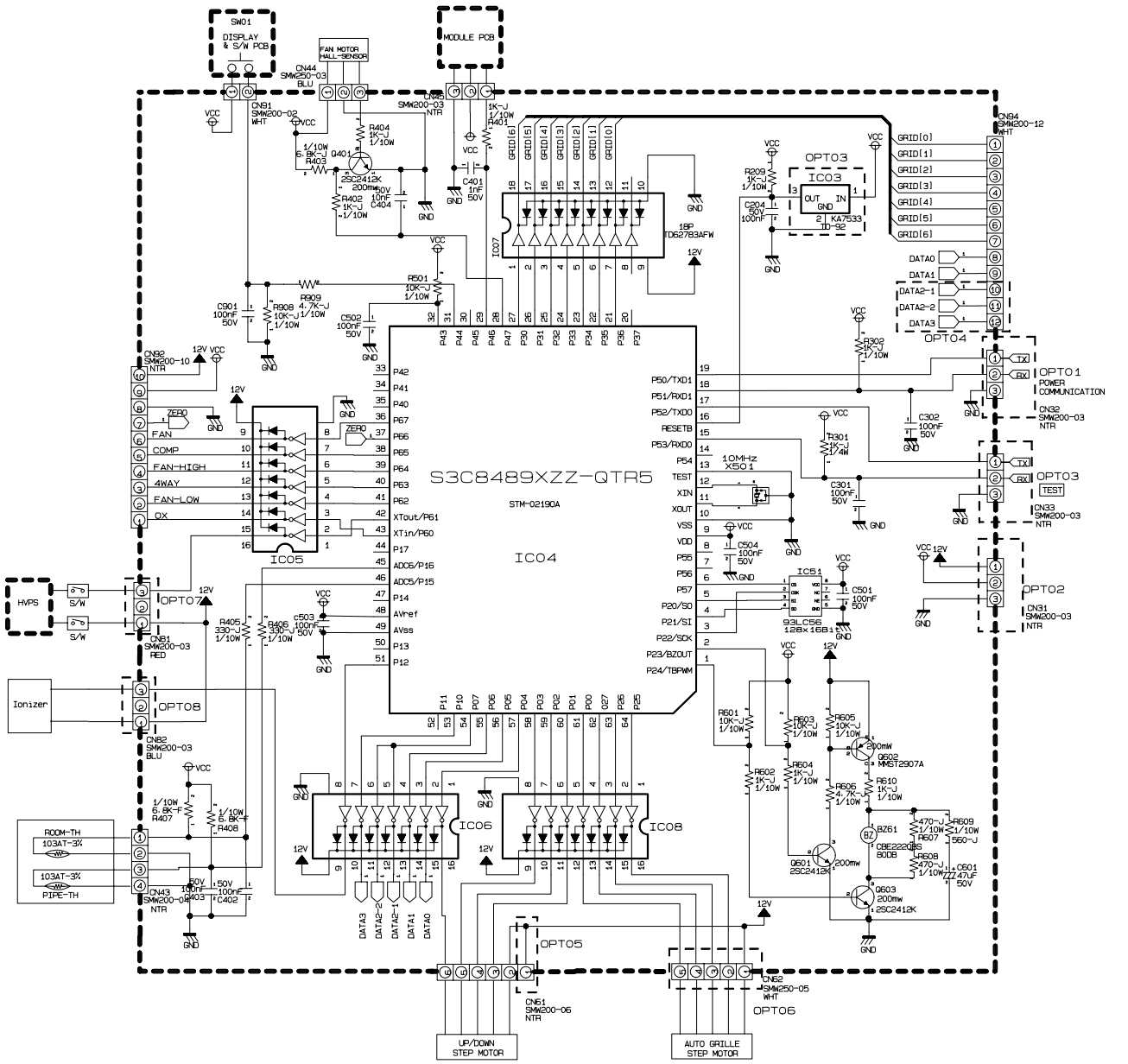
9-1-2 18K / 24K BTU(DC-PART)



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